"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Measurement of the Transport Numbers for Ca^{++} in Melts in the CaO-MgO-SiO_2 and CaO-MgO-Al_2O_3-SiO_2 Systems.

-SiO_2 melts in their measurements of the mobility of Ca^{++} in this system (Ref.3). The relative mobility of Ca^{++} ion in melts of the compositions CaO.0·5MgO.0·5 Al_2O_3.3·25SiO_2 and CaO.MgO.1·5Al_2O_3.1.75SiO_2 (and in one of composition CaO.MgO.3·25SiO_2 for comparison) was measured to elucidate the behaviour of Al_2O_3 and MgO. The first of these four-component melts differs from that in the ternary system in having part of the SiO_2 replaced by Al_2O_3. A method previously described in detail (Ref.4) which used Ca^{45} was employed, but the Ca^{45} was found to be lost at the temperature used (1550°C), so the method had to be changed somewhat. The electrolysis cell (see figure) consisted of a large alundum crucible containing two small crucibles. One of these had a hole in it and constituted the anode diaphragm, the anode being inserted inside it. The other electrode was inserted in the melt in the large crucible. The other small crucible acted as a check; it had no hole in it, but was used

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Measurement of the Transport Numbers for Ca^{++} in Melts in the $CaO-MgO-SiO_2$ and $CaO-MgO-Al_2O_3-SiO_2$ Systems.

to determine the Ca^{45} loss from the change in the activity of the slag in it; the activity of the slag in this crucible was used instead of the initial activity in the calculations. Of course, the accuracy of the transport number measurement is thereby reduced, and the results should therefore be taken as somewhat qualitative. But even qualitative estimates of relative mobility give valuable data in relation to the behaviour of cations in melts. The transport number of Ca^{++} was determined from the equation:

$$x_{Ca} = \frac{\frac{p_{Ca}}{\partial Ca}\left[\frac{M}{k}\left(1 - \frac{J_a}{I}\right) + \partial_{Al} + \partial_O\right]}{1 - p_{Ca} + p_{Ca}\partial_{Al}/\partial_{Ca}} \qquad (1)$$

where p is the fraction by weight of Ca^{++} before the experiment, ∂_{Ca}, ∂_{Al} and E_O being the g-equivalent weights of the calcium, aluminium and oxygen ions, M the anolyte weight (g), k the charge passed (faradays), J_a the anolyte

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Measurement of the Transport Numbers for Ca^{++} in Melts in the $CaO-MgO-SiO_2$ and $CaO-MgO-Al_2O_3-SiO_2$ Systems.

activity after the experiment, J the activity in the check crucible and x_{Ca} the transport number of Ca^{++}.

Eq.(1), which was derived (Ref.3) assuming a unipolar conductivity for melts with two cations, can be used here since ϑ_{Al} and ϑ_{Mg} are close together. Tables 1-3 give the results; Table 1 shows that in the $CaO.MgO.3{\cdot}25\ SiO_2$ melt the Ca^{++} is of much higher mobility than the Mg^{++}; when part of the MgO is replaced by Al_2O_3 the Ca^{++} transport number drops appreciably, as Table 2 shows. Since there are no suitable radio isotopes of Al and Mg it could not be decisively determined which of the ions from these metals competes with Ca^{++} in conducting the current, but the authors suppose that the main one is Al^{+++}. The appreciable mobility of Al^{+++} in a $CaO-Al_2O_3-SiO_2$ melt indicates this; so does the reduced MgO content of the $CaO.0{\cdot}5MgO.0{\cdot}5Al_2O_3.3{\cdot}25SiO_2$ melt, relative to the ternary system, since if the Mg^{++} here retained the

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Measurement of the Transport Numbers for Ca^{++} in Melts in the $CaO-MgO-SiO_2$ and $CaO-MgO-Al_2O_3-SiO_2$ Systems.

same mobility as in the $CaO.MgO.3.25SiO_2$ one its transport number should be reduced. So, if the Mg^{++} in the ternary system is in no state to compete with the Ca^{++}, then if the fall in the Ca^{++} transport number in the four-component melt is to be attributed to the Mg^{++} it would be necessary to suppose a very surprising increase in the transport number of the latter, which is highly improbable. The results of Table 3 indicate that when some of the SiO_2 in the ternary system is replaced by Al_2O_3 the Ca^{++} transport number drops still more markedly. This indicates that the current is partially carried by Al in cation form; it is doubtful if it can be supposed that the Mg^{++} is of high mobility in this melt, since when the acid SiO_2 is replaced by amphoteric Al_2O_3 the 'acid' features of ions such as Mg^{++} should be more marked, and the mobility therefore reduced. The results thus indicate that Al exists in cation form in melts in the $CaO-MgO-Al_2O_3-SiO_2$ system, and that MgO has acid properties, so both Al_2O_3 and MgO can be considered as amphoteric oxides in these

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24-58-3-13/38

Measurement of the Transport Numbers for Ca^{++} in Melts in the $CaO-MgO-SiO_2$ and $CaO-MgO-Al_2O_3-SiO_2$ Systems.

melts. The figure shows a sketch of the electrolysis cell for transport number measurements (schematic). Tables 1-3 give the measured results. (This is a complete translation with the exception of the tables and the references). There are 3 tables, 1 figure and 4 Soviet references.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChIM (Metallography and Metal Physics Institute of the TsNIIChIM)

SUBMITTED: July 3, 1957.

1. Metallurgy 2. Silicate components--Behavior

Card 6/6

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.F.; ONUFRIYENKO, F.F.

Construction and design of a centrifugal multidisk sprayer.
Trudy DKHTI no.6:232-241 '58. (MIRA 13:11)
(Plate towers)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

MALKIN, V.I., kand.tekhn.nauk; POKIDYSHEV, V.V.; KHOKHLOV, S.F.; SHVARTSMAN, L.A., doktor khim.nauk

Effect of electric current passed through a metal-slag boundary on the process of iron desulfuration. Probl.metallored.i fiz. met. no.6:314-317 '59. (MIRA 12:8)
(Cast iron--Electrometallurgy)
(Desulfuration)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

S/180/60/000/006/014/030
E201/E391

AUTHOR: Khokhlov, S.F. (Moscow)

TITLE: Some Problems in the Structure of Melts

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No. 6, pp. 80 - 85

TEXT: Current theories of liquids treat them either as gases with strong interactions or as quasicrystalline systems. A satisfactory theory of the liquid state should unite these two approaches. Experimental results show that a liquid can be regarded as a dynamic assembly of micro-regions in mobile equilibrium which means that atoms or groups of atoms are continuously moving from one region to another. Dimensions of these regions are governed primarily by the temperature of the liquid, i.e. the energy of thermal motion of atoms. The structure of the micro-regions, i.e. the mutual positions of atoms, are governed by the symmetry of the atomic force fields and the energy of their interactions. The concept of micro-regions in liquids is due to Stewart (Ref. 9) who discussed

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

S/180/60/000/006/014/030
E201/E391

Some Problems in the Structure of Melts

solutions of organic substances. This concept is applied here to discuss the effect of composition on the structure of liquids and melts of eutectic concentration which have regions consisting of pure components (i.e. atoms of one type).
There are 1 figure and 22 references: 12 Soviet and 10 non-Soviet.

SUBMITTED: August 26, 1960

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

GANZ, S.N., kand.tekhn.nauk; KHOKHLOV, S.F., inzh.

Determination of the dimensions of centrifugal hollow towers with mutiple-disk sprayers. Khim.mash. no.2:31-33 Mr-Ap '61. (MIRA 14:3)

(Chemical engineering—Equipment ans supplies)
(Absorption)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

30992
S/124/61/000/009/013/058
D234/D303

24.7131

AUTHORS: Dyatlov, A.V. and Khokhlov, S.F.

TITLE: On the theory of disc pulverizers

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 9, 1961, 36-37, abstract 9 B227 (Tr. Dnepropetr. khim.-tekhnol. in-t, 1960, no. 10, 27-36)

TEXT: Some problems of the theory of disc pulverizers of liquids are exposed which allow the approach to the design of these pulverizers. Stationary flow of liquid from the center to the circumference of a rotating disc is considered. A non-linear differential equation of motion of the liquid is obtained in vector form and in polar coordinates. Results of numerical integration of the equation are given: Graphs of variation of radial acceleration and angular velocity of a particle of liquid with time, absolute and relative trajectory of motion of the particles of liquid on the disc. Motion of a very thin layer of liquid on a smooth disc is

Card 1/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

On the theory...

considered. An approximate solution of the problem is obtained when the law of velocity distribution along the height of the layer is given. The case of motion of liquid is analyzed. Formulae are obtained for the trajectory, time of motion in the canal and radial velocity of a particle of liquid at the moment of leaving the disc. A formula is given for designing the power of the motor driving the disc, also a formula for designing the efficiency of the disc pulverizer. 7 references. [Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

S/126/63/015/002/029/033
E111/E151

AUTHORS: Khokhlov, S.F., and Spektor, Ye.Z.

TITLE: The possible use of X-ray diffraction in the examination of liquid refractory metals

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.2, 1963, 311-313

TEXT: The apparatus developed by the authors enables an X-ray scattering intensity chart to be prepared by examination of liquid metals at temperatures up to 1500-1600 °C. It consists (Fig.1) of levelling screws 11, an X-ray tube 13, slit 15 and lid 6. The slit and tube can be moved up and down independently and the radiation detector 5 can be moved by the mechanism 7 attached to the lid. A mechanism 9 for moving the specimens vertically is attached to the inside of the lid. The water-cooled casing of 150 mm internal diameter is provided with a slot 4 closed by a strip which can withstand heating to 200 °C with a vacuum of 10^{-4} mm Hg in the chamber. The specimen is heated by an inductor 12 which is connected to a high-frequency generator. With the sharp-focus tube a single slit 0.4-0.6 mm situated 90 mm

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

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from the center of the camera was adequate. Good agreement with published results was obtained for mercury and liquid tin, and good intensity curves were recorded with liquid silver and nickel. There are 2 figures.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Science of Metals and Physics of Metals TsNIIChM)

SUBMITTED: June 12, 1962

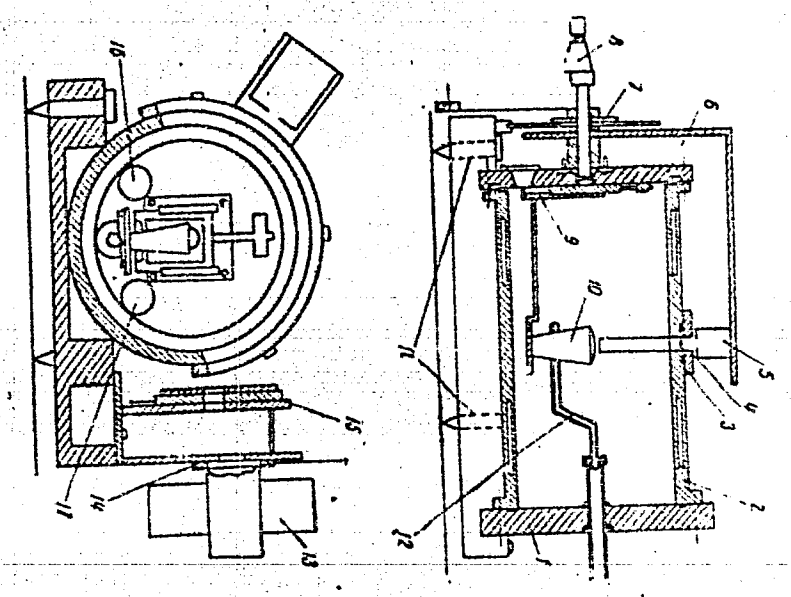
APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

The possible use of X-ray ...

S/126/63/015/002/029/033
E111/E151

Fig.1



Card 3/3

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

ACCESSION NR: AP4040378 S/0185/64/009/004/0440/0444

AUTHOR: Spektor, Ye. Z.; Khokhlov, S. F.

TITLE: Device for X-Ray Investigation of Molten Refractory Metals [Paper presented at the Shestoye Soveshchaniye po Fizike Zhidkogo Sostoyaniya Veshchestva, Sixth Conference on the Physics of the Liquid State of Matter, Kiev, 1963.]

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 4, 1964, 440-444

TOPIC TAGS: X-ray, x-ray camera, molten metal, molten metal x-ray spectrum, nickel x-ray spectrum, x-ray tube BSV-3, URS-50I device, low-noise photomultiplier FEU-35, optical pyrometer MOP-48, induction heater LGP-30

TRANSLATION: A device is described for the x-ray analysis of molten refractory metals. The device schematic, with annotated key, is presented in Figure 1 of Enclosure 01. A high-frequency induction heater is used to melt the metal, and an optical pyrometer measures the temperature of the x-irradiated spot. This device is a modification of an earlier one built by the authors (FMM, 15, No. 2, 311, 1963). The intensity curve of x-rays (iron source) scattered from

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

ACCESSION NR: AP4040378

liquid nickel is presented [without grid]. Orig. art. has 3 figures.

ASSOCIATION: TsNIIChM, Institut Metallovedeniya i Fiziki Metallov, Moscow (TsNIIChM, Institute of Metallography and Metal Physics)

SUBMITTED: 00 DATE ACQ: 13May64 ENCL: 03

M SUB CODE, MM NO REF SOV: 001 OTHER: 001

Card 2/5

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

SPEKTOR, Ye.Z.; KHOKHLOV, S.F.

Plant for X-ray diffraction studies of liquid high-melting metals. Ukr. fiz. zhur. 9 no.4:440-444 Ap '64. (MIRA 17:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni I.P. Bardina i Institut metallovedeniya i fiziki metallov, Moskva.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.F., kand.tekhn.nauk; ANNENKOV, V.A., kand.tekhn.nauk; SHUTKIN, G.A., inzh.

Studying the process of mass transfer in a scrubber having conically slotted plates. Khim. i neft. mashinostr. no.9:25-26 S '65. (MIRA 18:10)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.I., gornyy inzhener

Improving the construction of an electric locomotive lateral current collector. Gor.zhur. no.6:63-64 Je '55. (MLRA 8:8)
(Magnitogorsk--Electric locomotives)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.I., gornyy inzhener.

Modernizing SE-3 excavator parts at the Magnitogorsk mine. Ger. zhur. no.5:72 My '57. (MLRA 10:6)
(Magnitogorsk--Iron mines and mining) (Excavating machinery)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.I., gornyy inzhener.

Sand quarries equipped with conveyer belts. Ger. zhur. no.5:73 My '57.
(Quarries and quarrying) (Conveying machinery) (MLRA 10:6)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

28(1) SOV/118-59-4-9/25

AUTHOR: Khokhlov, S.I., Engineer

TITLE: The Mechanization of Kaolin Mining in Winter by Using the T-107 Truck-Loader

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959, Nr 4, pp 29-31 (USSR)

ABSTRACT: For the production of refractory material at the Magnitogorskiy metallurgicheskiy kombinat (the Magnitogorsk Metallurgic Combine), kaolin is transported from the Chekmakul'skiy kar'yer (the Chekmakul'skiy Strip Pit), located 90 km from Magnitogorsk and 10 km from the Southern Ural Railroad. The article deals with experience in working with the T-107 loader truck, which was used as a multi-purpose machine, at first on rock stripping, then on kaolin mining, and finally for loading kaolin on flatcars. In stripping rock, the loader truck proved to be dependable. In kaolin excavation, the diesel tractor was overstrained and broke down. After dynamiting the kaolin, the

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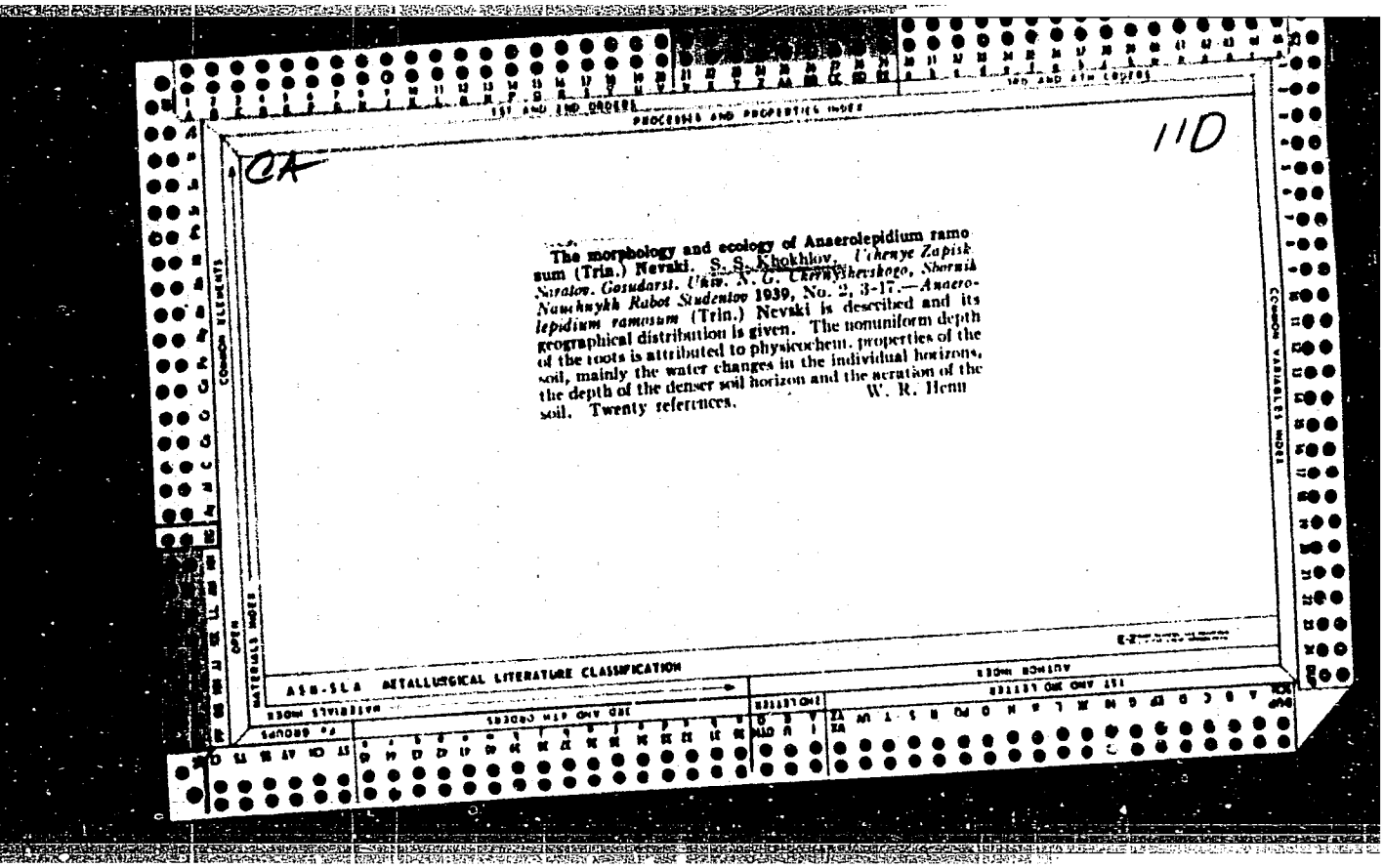

CA

110

The morphology and ecology of Anaerolepidium ramosum (Trin.) Nevski. S. S. Khokhlov. *Uchenye Zapiski Saratov. Gosudarst. Ukhv. A. G. Chernyshevskogo, Sbornik Nauchnykh Robot Studentov* 1939, No. 2, 3-17.—*Anaerolepidium ramosum* (Trin.) Nevski is described and its geographical distribution is given. The nonuniform depth of the roots is attributed to physicochem. properties of the soil, mainly the water changes in the individual horizons, the depth of the denser soil horizon and the aeration of the soil. Twenty references. W. R. Henn

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S. S. Saratov State University

"Asexuoseminal Plants, Historical Premises and Evolutionary Perspectives"

SOURCE: Uchen. Zap. Saratofsk.Univ., 6, No 1, 1946

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S. S. Saratov State University imeni N. G. Chernyshevskiy

"Historical Conditions and Evolutionary Significance of Apomixis in Angiosperms"

SOURCE: Dok. AN, 52, No 9, 1946

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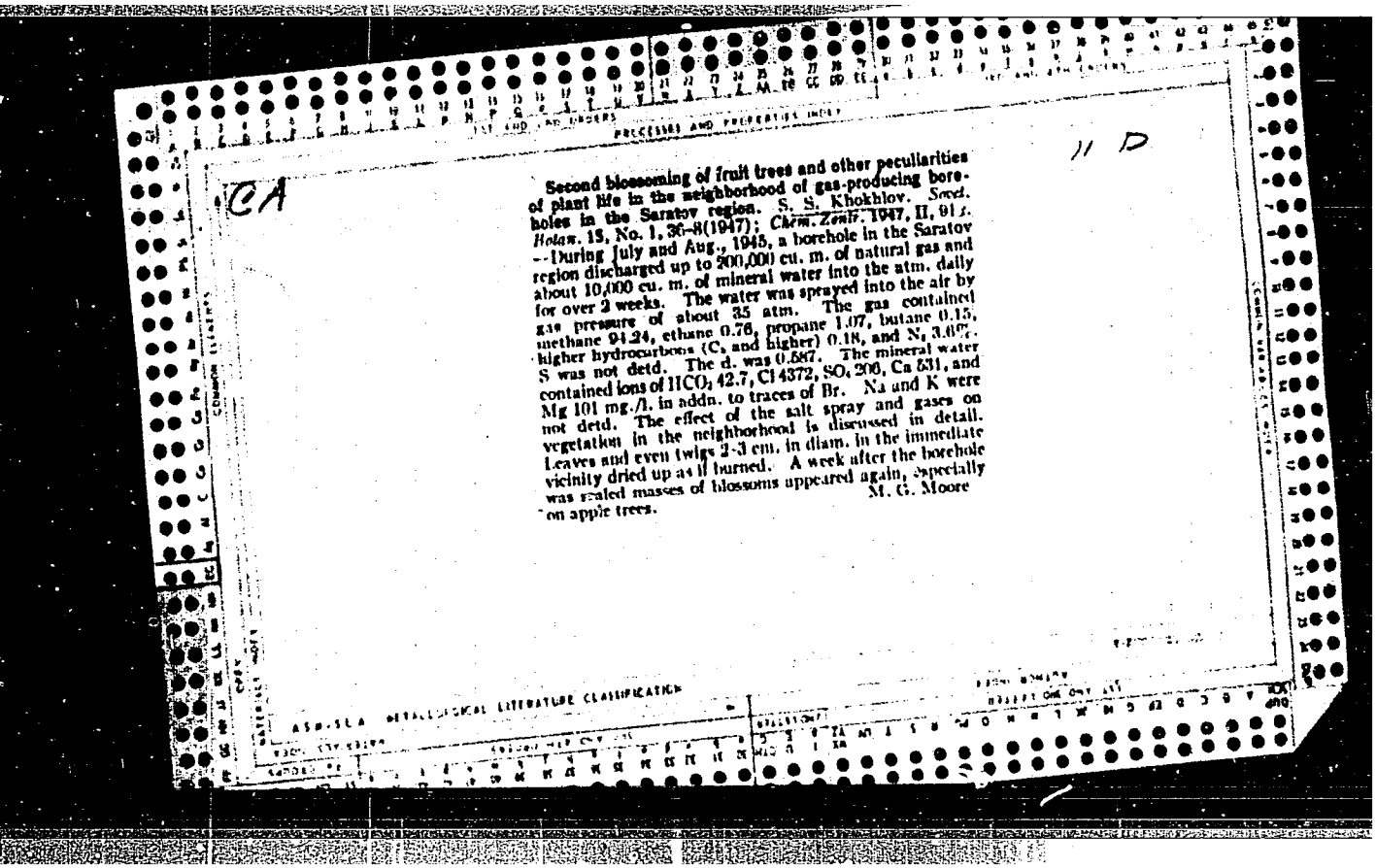

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11 D

Second blossoming of fruit trees and other peculiarities of plant life in the neighborhood of gas-producing boreholes in the Saratov region. S. S. Khokhlov. *Sovet. Botan.* 15, No. 1, 36–8(1947); *Chem. Zentr.* 1947, II, 915. --During July and Aug., 1945, a borehole in the Saratov region discharged up to 200,000 cu. m. of natural gas and about 10,000 cu. m. of mineral water into the atm. daily for over 2 weeks. The water was sprayed into the air by gas pressure of about 35 atm. The gas contained methane 91.24, ethane 0.76, propane 1.07, butane 0.15, higher hydrocarbons (C_5 and higher) 0.18, and N_2 3.60%. S was not detd. The d. was 0.587. The mineral water contained ions of HCO_3 42.7, Cl 4372, SO_4 200, Ca 531, and Mg 101 mg./l. in addn. to traces of Br. Na and K were not detd. The effect of the salt spray and gases on vegetation in the neighborhood is discussed in detail. Leaves and even twigs 2–3 cm. in diam. in the immediate vicinity dried up as if burned. A week after the borehole was sealed masses of blossoms appeared again, especially on apple trees.

M. G. Moore

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.; KAYMEVA, A.

Agriculture

Trees and shrubs of the Lower Volga Valley. Saratov, Oblastnoe izd-vo, 1950.

9. Monthly List of Russian Accessions, Library of Congress, October 1953, Uncl.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.S.

"New developments in science concerning biological species" and agricultural practice. Bot.zhur. 39 no.3:357-379 My-Je '54.
(MLRA 7:7)

1. Saratovskiy Gosudarstvennyy universitet.
(Origin of species) (Wheat)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.S.

Problem of species formation in I.V.Michurin's works. Bot. zhur.40 no.5:667-679 S-O '55. (MLRA 9:4)

1.Saratovskiy gosudarstvennyy universitet imeni N.G.Chernyshevskogo.
(Origin of species)(Michurin, Ivan Vladimirovich, 1855-1935)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.S.

Theoretical principles underlying the utilization of the phenomenon of apomixis in plant breeding and seed production. Nauch.dokl.vys.shkoly;biol.nauki no.3:130-132 '58. (MIRA 11:12)

1. Predstavlena kafedroy genetiki i darvinizma Saratovskogo gosudarstvennogo universiteta imeni N.G.Chernyshevskogo.
(Parthenogenesis (Plants))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

AUTHOR: Khokhlov, S. S. 20-119-4-52/60

TITLE: Classification of the Apomixis in Angiosperms (Klassifikatsiya apomiksisa u pokrytosemennykh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 4, pp. 812-815 (USSR)

ABSTRACT: For several times it has been emphasized that the classification and the terminology of the apomixis is very unsatisfactory (references 1, 7, 11). At present the apomixis becomes a practical problem of great importance in genetics and the cultivation of seeds (references 2, 3, 5-8, 10, 13, 15). The classification and the understanding of the numerous facts collected until now are impossible without a clear division and terminology, which is built up on a uniform principle. The author gives a historical survey of this field (references 6, 14). Following a typical cycle, the sexual process is described (figure 1). The classification of the forms of the apomixis, suggested by the author, is based upon 4 elements (figure 1). The technical terms,

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Classification of the Apomixis in Angiosperms "APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

chosen for their notation, are built up according to a uniform principle. Each of them consists of a prefix "apo", followed by the name of that morpho-biological phase, which drops out with the cycle alone or together with following phase. This unification of the notation leads to a more exact determination of the content of some older technical terms as well as to a renunciation of some of them. The classification is as follows: I) Transition forms. 1) Apospore-zygotysis. 2) Apoarchespore-zygotysis. In both cases the sporogenesis is omitted and the fertilisation is maintained. As a consequence of the omitted meiosis the gametophyte and the gamete contain a non-reduced diploid number of chromosomes; in the fertilisation a triploid embryo forms. 3) Spore-apozygotysis. 4) Spore--apogamy. In both forms the fertilisation is omitted, while the sporogenesis is maintained. As a consequence of the sporogenesis the gametophyte and the gamete contain a haploid number of chromosomes; in the case of lacking fertilisation a haploid embryo forms. II) Primary forms. 5) Apospore-apozygotysis. 6) Apoarchespore-apozygotysis.

Card 2/4

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Classification of the Apomixis in Angiosperms 20-119-4-52/60

SUBMITTED: November 17, 1957

Card 4/4

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S. S.

Number of plant species with apomictic reproduction. Uch. zap. Sar. un. 64:117-123 '59. (MIRA 13:9)
(Apogamy)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, S.S.

In memory of Aleksandr Dmitrievich Fursaev (1900-1961). Bot. zhur. 47 no.7:1050-1056 Jl '62. (MIRA 15:9)

1. Saratovskiy gosudarstvennyy universitet.
(Fursaev, Aleksandr Dmitrievich, 1900-1961)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, T., direktor-podpolkovnik tyagi.; RUDAYA, R., inzh.-kapitan tyagi

Characteristics of the da series diesel locomotive. Zhel. dor. transp. no.1:49-56 '47. (MIRA 13:2)
(Diesel locomotives)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, T.N., rukovoditel' teplovoznogo otdeleniya; POYDO, A.A.; FUFAYANSKIY, N.A.; FOLODIN, A.I.

Gas turbine locomotives. Trudy TSNII MPS no.87:5-51 '54.
(Gas turbine locomotives) (MLRA 8:3)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, T.N.

KHOKHLOV, T.N.; PLATONOV, Ye.V.

Improved equipment for the electrical system of the series TE1 and TE2 locomotives. Trudy TSNII MPS no.87:76-97 '54.
(Diesel locomotives) (MLRA 8:3)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, T.N., kandidat tekhnicheskikh nauk.

The TE4 gas producer diesel locomotive and results of tests made with it. Zhel.dor.transp. 37 no.10:12-16 O '55. (MLRA 9:1)

(Diesel locomotives)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, T.N.

ISAAKYAN, O.N., professor; GANINSKIY, G.V.; KHOKHLOV, T.N.

New rules for making traction calculations. Vest. TSNII MPS 15 no.1:32-36 Ag '56. (MLRA 9:12)

(Railroad engineering)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, [illegible], kand. tekhn. nauk, red.; SALENKO, S.V., red.; VERINA, G.P., tekhn. red.

[Test results for the TE3 diesel locomotive] Rezul'taty ispytanii teplovoza TE3. Moskva, Gos. transp. zhel.-dor. izd-vo, 1957. 167 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no.142). (MIRA 10:12)
(Diesel locomotives)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.

Civil defense against bacteriological weapons. Voen. znan. 33 no.3: 23-24 Mr '57. (MLRA 10:6)

(Bacteriological warfare)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Khokhlov, V

USSR/General Division. Conservation of Nature. A-5

Abs Jour: Ref. Zhur. Biologiia, No 4, 1958, 14250

Author : Khokhlov V.
Inst :
Title : To Preserve the Pheasants in Uzbekistan

Orig Pub: Okhota i okhotn. kh-vo, 1957, No 7, 20

Abstract: No abstract.

Card : 1/1 -20-

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

1. KHOKHLOV, V.
2. USSR (600)
4. Construction Industry - Kursk Province
7. Kursk trust "Sel'stroi." Sel'.stroi. 2 no. 2, 1947

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

ARSEN'YEVA, Ye.I. [reviewer]; KHOKHLOV, V. [author].

A pamphlet devoted to a woman physician ("Aleksandra Mikhailovna Kruglova" V.Khokhlov. Reviewed by E.I.Arsen'eva). Sov.zdrav. 12 no.6:60 N-D '53. (MLRA 6:11)

(Kruglova, Aleksandra Mikhailovna)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V., inzhener.

Renovation of rotary kilns. Stroi.mat. 3 no.2:7-9 F '57.
(MLRA 10:3)

1. Nachal'nik teplotekhnicheskoy laboratorii NIITsementa.
(Kilns, Rotary)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.; GORDON, Kh.

Establishing norms for auxiliary work. Sots. trud 8 no.2:141-144 F '63. (MIRA 16:2)

1. Glavnyy spetsialist ekonomicheskogo upravleniya Moskovskogo gorodskogo soveta narodnogo khozyaystva (for Khokhlov). 2. Nachal'nik otdela tekhnicheskikh normativov po trudu Vsesoyuznogo proyektno-tekhnicheskogo instituta (VTTI) (for Gordon).
(Moscow—Machinery industry—Production standards)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

1. KHOKHLOV, V. A.: LOMOVITSKAYA, M. P.: SHATSKIY, S. B.

2. USSR (600)

4. Shadrinsk Deposit - Coal

7. Paleontological remnants of the Shadrinsk coal deposits. (Abstract.) Izv. Glav. upr. geol. fon. no. 2, 1947.

Main Admin. Geological Stocks, USSR Min. Geol.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

MARININ, V.A.; KHOKHLOV, V.A.

Preparation of lakes covered with a layer of peat for winning sapropel. Torf.prom. 37 no.6:25-26 '60. (MIRA 13:9)

1. Sibirskoye otdeleniye AN SSSR.
(Peat) (Sapropel)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A.

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 2, p.213 (USSR) 112-2-4007

AUTHOR: Khokhlov, V.A.

TITLE: Electrohydraulic Converter Devices for d-c Electronic Integrators (Elektrogidravlicheskiye preobrazuyushchiye ustroystva k elektronnym integratoram postoyannogo toka)

PERIODICAL: Tr. 2-go Vses. soveshchaniya po teorii avtomat. regulirovaniya. Moscow-Leningrad, 1955, Nr 3, pp.94-101, discussions 108-113

ABSTRACT: The possibility of making studies of operational regulators with the aid of electrical analog computers is pointed out. To do this, auxiliary units, a system for transforming the electrical analog computer output voltage into a mechanical,

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Electrohydraulic Converter Devices for d-c Electronic 112-2-4007 (Cont.)

angular displacement, and a device for transforming the voltage into a load on the actuating members of the regulator would be necessary. The hydraulic actuating mechanism with slide valve control and the hydro-amplifier, elements of the angle and moment follow-up systems are described. The plan of an electrical hydraulic angle follow-up system, developed by IAT AN SSSR, is given. The system develops a maximum output power of 1.25 hp. at a rate of angular change of 160 degrees/ sec and at an error of 2 to 8 degrees at frequencies of 1 and 2.5 cps respectively. Certain data from the theoretical and experimental research done on it are given. A design for an electrical hydraulic follow-up system to create a moment in which a potentiometer is used as the feedback element is proposed. The potentiometer sliding contact is at an angle of inclination proportional to the load moment.

Card 2/2

I.M.V.

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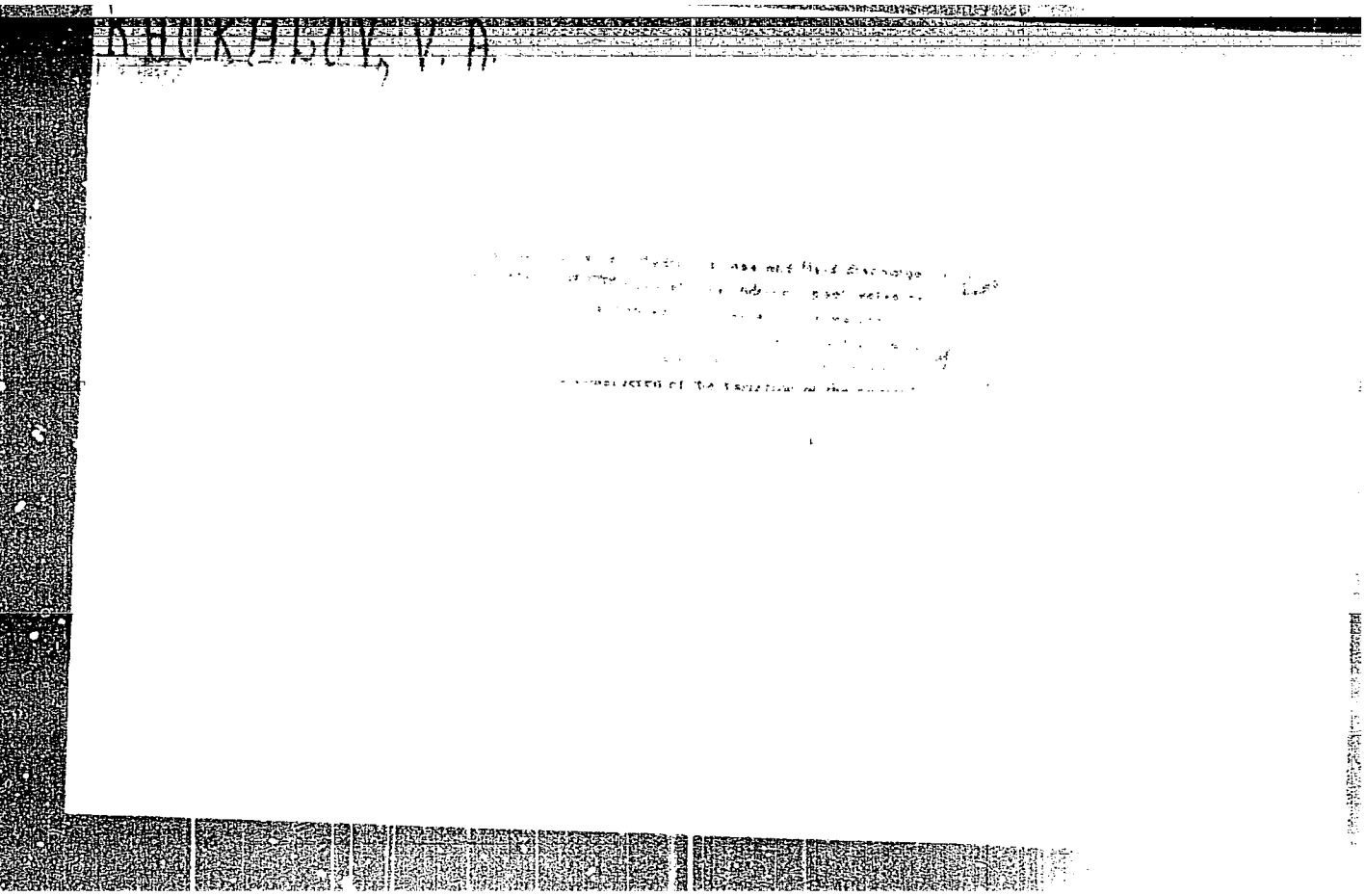

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Khokhlov, V.A.

USSR/Engineering - Regulation

FD-1670

Card 1/1 Pub. 10-6/11

Author : Khokhlov, V. A. (Moscow)

Title : Coefficient of hydraulic losses and the coefficient of discharge of a fluid through the windows of cylindrical slide valves of hydraulic auxiliary mechanisms.

Periodical : Avtom. i telem., Vol. 16, 64-70, Jan-Feb 1955

Abstract : The author considers the nature of the variation in the coefficient of hydraulic losses and in the coefficient of fluid discharge through the windows of cylindrical slide valves belonging to auxiliary mechanisms of regulation systems. He obtains the curves showing this variation as a function of the axial distance between heads and pressure drop, and shows that the critical Reynolds number of fluid flow in the windows equals 260. The results obtained can be used to investigate the force and speed characteristics of hydraulic auxiliary mechanisms in automatic regulation systems and servosystems. Six references; e.g. G. P. Vovk, "Experimental investigation of chink condensations," Dissertation, Moscow Machine-Tool and Tool Institute imeni Stalin, 1946.

Institution : --

Submitted : February 5, 1954

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A.

USSR/Automatics and telemechanics-hydraulics FD-2750

Card 1/2 Pub. 10 - 1/11

Author : Khokhlov, V. A. (Moscow)

Title : Velocity characteristics of hydraulic final-control mechanisms with slide valve control

Periodical : Avtom. i telem., 16, Sep-Oct 1955, 421-430

Abstract : The author presents an equation determining the velocity of motion of the piston of a hydraulic final-control mechanism with slide valve control under the action upon it of an external load. He introduces the concept of hydraulic final-control mechanism with unit dimensions. For such a mechanism he constructs a universal network of curves which enables one with a simple conversion of the scale to determine for each concrete mechanism the velocity of motion of its piston as a function of the displacement of the slide valve and external load. He concludes that the constructed graph of the distribution of pressures in the operating tract of the hydraulic final-control mechanism with throttle (slide valve) control can, when its piston is overcome by the external load, be utilized in the evaluation of the energy possibilities of the mechanism, and that the introduced universal network of velocity characteristics governing a hydraulic final-control mechanism

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Card 2/2

with unit dimensions permit one essentially to simplify the construction of the velocity characteristics of concrete final-control mechanisms. Four references, USSR.

Institution :

Submitted : January 14, 1954

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A.

USSR/Automatics and telemechanics - Hydraulic FD-3080

Card 1/1 Pub. 10 - 3/8

Author : Khokhlov, V. A. (Moscow)

Title : Power and coefficient of useful action of hydraulic effector mechanisms with choke (slide) control

Periodical : Avtom. i telem., Vol. 16, Nov-Dec 1955, 530-535

Abstract : The author considers the power and coefficient of useful action of hydraulic effector mechanisms with choke (slide) control which operate in automatic regulation systems. He shows that for constant pressure in the pressure line the power output of the mechanisms does not exceed 38% of the power of the flow of liquid developed during no load on the hydromotor, and that the structural coefficient of useful action is a linear function of the load to be overcome. Two references: V. A. Khokhlov, "Velocity characteristics of hydraulic effector mechanisms with slide control," ibid., 16, No 5, 1955; Yu. P. Portnov-Sokolov, "Movement of hydraulic piston effector mechanism for typical loads on it," Symposium of works on automatics and telemechanics, Trudy pervoy nauchno-tekhnicheskoy konferentsii molodnykh spetsialistov IAT AN SSSR [Works of first sci-tech conference of young specialists in the Institute of Automatics and Telemechanics, Acad Sci USSR], 1953.

Submitted : June 28, 1954

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Khokhlov, V. A.

KHOKHLOV, V. A.

"On the Problem of Determining Optimum Distance Between the Working Edges of a Valve-Pair of Hydraulic Power Servo Systems," pp 157-165, ill, ref

Abst: A method is examined for computing the optimum distance between the working edges of a valve-pair, having the greatest increment in moving moment generated by the piston of a hydraulic actuating mechanism during movement of the valve from a central position.

SOURCE: Sbornik Rabor po Avtomatike i Telemekhanike. In-t Avtomatike i Telemekhaniki AN SSSR (Collection of Works in Automatics and Telemechanics. Institute of Automatics and Telemechanics of the Academy of Sciences USSR), Moscow, Publishing House of the Academy of Sciences USSR, 1956

Sum 1854

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KOTEL'NIKOV, V.A. (Moskva); KHOKHLOV, V.A. (Moskva)

Electro-hydraulic output unit for d.c. analog computers.
Avtom. i. telem. 17 no.7:601-610 Jl '56. (MLRA 9:10)

(Calculating machines)

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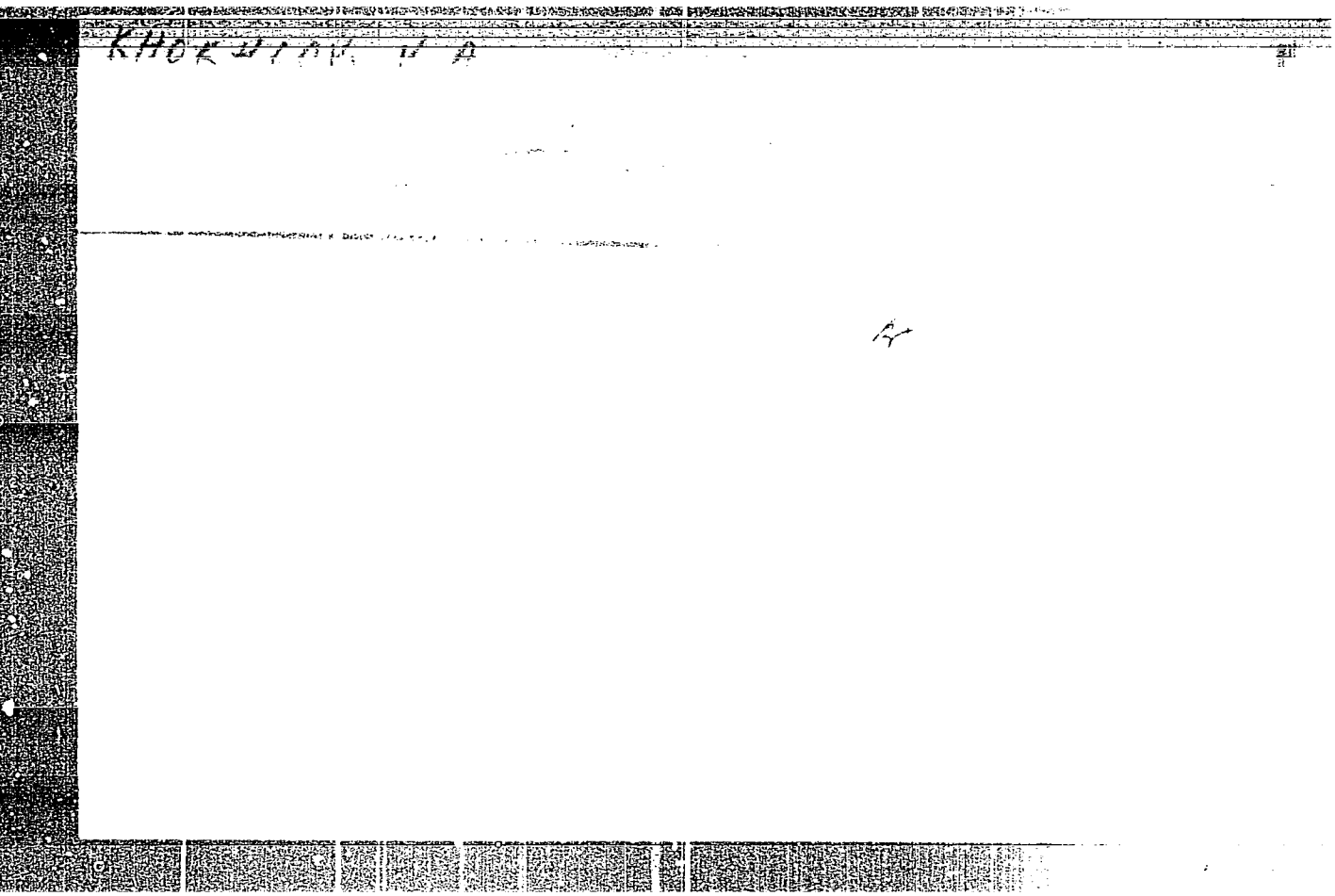

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V. A. (IAT AN SSSR)

, "A Summary of Hydralic Power Amplifiers,"

report presented at the Scientific Seminar on Pneumo-Hydraulic Automation, 28-29 May 1957, at the Inst. for Automation and Remote Control (IAT), Acad. Sci. USSR

Avtomika i Telemekhanika, 1957, Vol. 18, No. 12, pp. 1148-1150, (author SEMIKOVA, A. I.)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

Khokhlov, V.A.

AUTHOR Khokhlov, V.A. (Moscow) 103-9-1/9
TITLE The Analysis of the Motion of a Loaded Hydraulic Device with a Feedback.
(Analiz dvizheniya nagrushennogo gidravlicheskogo ispolnitel'nogo mekhanizma s obratnoy svyas'yu- Russian)
PERIODICAL Avtomatika i Telemekhanika, 1957, Vol 18, Nr 9, pp 773-780 (U.S.S.R.)

ABSTRACT The analysis of the motion of a loaded hydraulic device with a rigid feedback is carried out in connection with the action of constant position- and inert loads upon the piston of the device. Equations for the computation of the critical mass are given. It is shown that the spring stress brought to bear upon the piston of the hydraulic device with a rigid feedback diminishes the amplification coefficient of the system. It is shown that an analysis of the dynamics of automatic control carried out only after comparison of the mass led to the piston with the critical mass. Should this mass turn out to be larger than the critical one, the results of analysis of dynamics will not be correct because of the possibility that the operating liquid flow might be torn.
There are 5 figures and 5 Slavic references.

SUBMITTED 6 Feb 1957
AVAILABLE Library of Congress.
Card 1/1

Khokhlov, V.A.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

AUTHOR: Khokhlov, V.A.
TITLE: Throttle Hydraulic Amplifiers. (Gidrousiliteli s drossel'nym upravleniyem)
PERIODICAL: Avtomatika i Telemekhanika, 1957, Vol. 18, Nr 10, pp. 937-946 (USSR)

ABSTRACT: A survey and at the same time a comparison of throttle hydraulic amplifiers used in electro-hydraulic visual systems (servosystems) and in automatic control systems aregiven. The survey is based on foreign and local publications as well as on works carried out by the Institute for Automation and Remote Control of the Academy of Science ofthe USSR. The following is described: hydraulic amplifier with a feed-back with one leading edge (Siemens, AEG) and of such with four leading edges (Pegasus and of the IAT); hydraulic amplifiers without feed-back with one and with two (Moog Valve Co.Inc.) leading edges. The survey shows that the hydraulic amplifiers show very high indices as to the dynamic characteristics and the external dimension measurements, There are 17 figures, 1 table, and 2 Slavic references.

SUBMITTED: December 27, 1956
AVAILABLE: Library of Congress
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHO KH/OV, 69.

28(1) PHASE I BOOK EXPLOITATION SOV/2077

Elementy sistem avtomaticheskogo regulirovaniya. ch. 1: Chuvstvitel'nyye usilitel'nyye i ispolnitel'nyye elementy (Elements of Automatic Control Systems. pt. 1: Sensing, Amplifying and Control Elements) Moscow, Mashgiz, 1959. 702 p. (Series: Osnovy avtomaticheskogo regulirovaniya, t 2) Errata slip inserted. 13,000 copies printed.

Reviewers: F. F. Galteyev, Candidate of Technical Sciences, V. A. Karesev, Doctor of Technical Sciences, P. P. Klobukov, Candidate of Technical Sciences, V. V. Petrov, Candidate of Technical Sciences, Yu. D. Ragozin, Candidate of Technical Sciences, Yu. R. Reyngol'd, Engineer, B. A. Ryabov, Doctor of Technical Sciences, B.D. Sadovskiy, Candidate of Technical Sciences, A. G. Saybel', Candidate of Technical Sciences, and A. A. Shevyakov, Candidate of Technical Sciences; Scientific Eds.: I. M. Vitenberg, Candidate of Technical Sciences, A. I. Moldaver, Candidate of Technical Sciences, and Yu. Ye. Ruzskiy, Candidate of Technical Sciences; Ed. of Series: V. V. Solodovnikov, Doctor of Technical Sciences, Professor; Eds. of Publishing House: G. F. Polyakov, A. G. Akimova, and G. M. Konovalov; Tech. Eds.: A. Ya. Tikhanov and T. F. Sokolova; Managing Ed. for Literature on Machine Building and Instrument Construction (Mashgiz): N. V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for engineering and scientific personnel and for instructors of vtuzes concerned with problems of automatic control.

COVERAGE: The authors explain the principle of operation of automatic control elements and servomechanisms. They also discuss typical automatic control circuits and present equations of motion and static and dynamic characteristics of automatic control elements. They describe sensing elements, amplifiers, control elements and transducers. The book contains Sections I, II, and III of Part 1, Volume II, "Principles of Automatic Control." The following persons participated in writing the present work: D. A. Braslavskiy, Candidate of Technical Sciences, paragraph 4 of Chapter III and paragraphs 1-8 and 14 of Chapter IV; L. S. Gol'dfarb, Doctor of Technical Sciences, paragraphs 1, 2, 6 and 7 of Chapter I; A. I. Guzenko, Candidate of Technical Sciences, paragraph 1 of Chapter VIII; K. Ye. Dmitriyev, Candidate of Technical Sciences, paragraph 2 of Chapter XIII; V. A. Kalashnikov, Engineer, Chapter XIV; P. P. Klobukov, Candidate of Technical Sciences, paragraphs 2 and 3 of Chapter VIII; P. F. Klubnikin, Candidate of Technical Sciences, Chapter XII; I. M. Krassov, Candidate of Technical Sciences, paragraph 1 of Chapter XIII, and Chapter XIV; D. S. Pel'por, Doctor of Technical Sciences, paragraphs 1-3of Chapter III; V. V. Petrov, Candidate of Technical Sciences, paragraph 1 of Chapter XIII, and Chapter XIV; M. A. Rozenblat, Doctor of Technical Sciences, Chapter VII; Yu. Ye. Ruzskiy, Candidate of Technical Sciences, paragraphs 1, 3-5 and 8-10 of Chapter 1, paragraphs 2-5, 12, 13 and 17 of Chapter II, paragraph 3 of Chapter XIII, and Chapter IX; B. D. Sadovskiy, Candidate of Technical Sciences, paragraphs 1 and 2 ofChapter X; A. A. Sokolov, Candidate of Technical Sciences, Chapter VI; V.K. Titov, Candidate of Technical Sciences, paragraphs 9-13 of Chapter IV, paragraph 4 of Chapter X, and Chapter XI; G. M. Ulanov, Candidate of Technical Sciences, paragraph 1 of Chapter II; Ye. V. Filipchuk, Candidate of Technical Sciences, paragraphs 6-11, 14-16 and 18-29 of Chapter II; A. Ye. Kharybin, Candidate of Technical Sciences, Chapter V; and V. A. Khokhlov, Candidate of Technical Sciences, paragraph 1 of Chapter IX and paragraph 1 of Chapter XIII. References appear at the end of each chapter.

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KOHKLOV, V.A.

PHASE I BOOK EXPLOITATION SOV/4671

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki. Seminar po pnevmogidravlicheskoy avtomatike. 2d and 3d session

Voprosy pnevmo- i gidro- avtomatiki (Problems in Pneumatic and Hydraulic Automation) Moscow, 1960. 211 p. Errata slip inserted. 4,500 copies printed.

Resp. Ed.: M.A. Ayzerman, Doctor of Technical Sciences, Professor; Ed. of Publishing House: A.A. Tal'; Tech. Ed.: S.G. Tikhomirova.

PURPOSE: This collection of articles is intended for scientific workers, industrial designers and engineers interested in automation and telemechanics.

COVERAGE: The collection of 23 articles is a continuation of an earlier work of the Academy of Sciences USSR, on pneumatic and hydraulic automation systems, published in 1959. A wide range of problems connected with the design and operation of pneumatic and hydraulic automation equipment is described. An addition to problems based on experiments, the collection also contains discussions of new trends in the field, such as the possibility of using very low pressure for the

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operation of pneumatic devices. Some articles of this collection were written in the German Democratic Republic and in Czechoslovakia and reflect a somewhat different approach to automation problems. No personalities are mentioned. References accompany most of the articles.

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Forced Periodic Motions of a Hydraulic Slave by Position Loading

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to the movements of the valve. The transitional processes occurring with a positive position loading are fully characterized by the maximum deviation of the piston, the amplitude and period of oscillations and the maximum deviation of the piston. Some expressions are derived for the three quantities, and the effect of compressibility upon them is studied. The following relation is obtained for the displacement of the piston under the action of an external force ΔP: $\Delta x = \frac{l_o^2 - x^2}{2l_o GF}\Delta P$, where G is the modulus of elasticity.

The differential equation $dx/dt = \frac{2GF}{kl_o+2GF}k_v\sqrt{1 - \frac{kx}{p_o}}\operatorname{sign}\varphi$ (14) is obtained instead of (5) if allowance is made for compressibility. There are 4 figures and 2 Soviet references.

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13,7000

AUTHOR: Khokhlov, V.A.

TITLE: A method of analyzing the dynamics of follow-up systems with a hydraulic motor-stage

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 29, abstract 8 V234 (V sb. Vopr. pnevmo-i gidroavtomatiki, M., AN SSSR, 1960, 24-30)

TEXT: The analysis is given of the transient response of a typical electro-hydraulic follow-up system, consisting of a hydraulic duct with throttle control, of a hydraulic amplifier of the electro-mechanical converter, of an electronic amplifier and of the position, velocity and load acceleration feedback circuits. It is suggested that the high-order differential equation, describing the system motion, be replaced by a simplified equation. This equation would represent a system in which all units with small time constants would be replaced by a single equivalent delay section. The

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A method of analyzing...

analysis is carried out for a system represented by series connected amplifying, integrating and delay sections in the forward path and by an amplifier in the feedback loop. The characteristic equation of this system is solved by graphical methods with respect to dimensionless frequency which is the product of angular frequency and of the time constant of the delay element. It is proved that such an equation has an infinite number of roots, but at the same time the stability of the system is determined by the value of the smallest root, i.e. the system becomes unstable at a lower frequency. An attempt is made to take into account the effect of a load with inertia on the value of the equivalent delay by considering the example of the acceleration of a hydraulic piston subjected to a step input, the action of piston position feedback at the start being disregarded. The curves of the process of acceleration, as obtained by numerical evaluation, are in agreement with those obtained by experiment. The magnitude of the equivalent delay time is determined by the length of a section of the time axis between the origin and the intersection of this axis with the asymptote of

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PHASE I BOOK EXPLOITATION SOV/5867

Khokhlov, Vikentiy Alekseyevich

Gidravlicheskiye usiliteli moshchnosti (Hydraulic Power Amplifiers) Moscow, Izd-vo AN SSSR, 1961. 100 p. 5200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

Resp. Ed.: M. A. Ayzerman, Doctor of Technical Sciences; Ed. of Publishing House: V. A. Klimov; Tech. Ed.: V. Ye. Volkova.

PURPOSE: This book is intended for scientific research workers and engineers working in the field of hydraulic servosystems and machine hydraulics.

COVERAGE: The book deals with hydraulic servosystems and describes various types of servoamplifiers and their elements. It explains the role of hydraulic amplifiers in automatic control systems and presents their designs

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Hydraulic Power Amplifiers SOV/5867

and flow diagrams. Characteristics and parameters of hydraulic amplifiers with and without feedback are given, and analyses of amplifier statics and dynamics are presented. No personalities are mentioned. There are 21 references: 11 Soviet, 8 English, and 2 German.

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KHOKHLOV, V.A., inzh.

Device for bending tests of the thin parts of instruments. Priborostroenie no.6:23-24 Je '61. (MIRA 14:6)
(Testing machines)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A. (Moskva)

Investigation of the volumetric tensile strength of the mineral oil of executive mechanisms in automatic control systems. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.6:85-88 N-D '61. (MIRA 14:12)

(Hydraulic control)
(Servomechanisms)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A.

Roller-type guides for the new Russian internal-grinding machines.
Stan.i instr. 32 no.11:17-18 N '61. (MIRA 14:10)
(Grinding machines)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

SAVINYKH, V.K., kand.tekhn.nauk; KHOKHLOV, V.A., inzh.

Mechanization of the construction of snow walls for road protection.
Avt.dor. 25 no.1:22-23 Ja '62. (MIRA 15:2)
(Novosibirsk Province—Snow fences)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

SAVINYKH, V.K., kand.tekhn.nauk; KHOKHLOV, V.A., inzh.

Machine for erecting snow fences with wide gaps. Avt.dor. 25 no.3:3 of cover Mr '62. (MIRA 15:3)

(Snow fences)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A.

The 3A229 multiple-purpose internal grinding machine. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.7:37-39 (MIRA 15:7)

(Grinding machines)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

ACCESSION NR: AT4042448 S/0000/64/000/000/0149/0158

AUTHOR: Khokhlov, V.A.

TITLE: Analysis of the stability and transient processes of a loaded throttle-controlled hydraulic servomechanism, taking the fluid compressibility into account

SOURCE: Vsesoyuznoye soveschaniye po pnevmo-gidravlicheskoy avtomatike. 5th, Leningrad, 1962, Pnevmo- i gidroavtomatika (Pneumatic and hydraulic control); materialy* soveshchaniya. Moscow, Izd-vo Nauka, 1964, 149-158

TOPIC TAGS: automation, automatic control system, hydraulic control system, hydraulic servomechanism, throttel controlled servomechanism, servomechanism stability, servomechanism transients, fluid compressibility, inertial load, dry friction, actuator

ABSTRACT: The construction of rapid-acting, high-frequency servomechanisms based on throttle-controlled hydraulic actuators often requires an analysis of the stability and motion of the system in response to a discrete input signal. This solution is simple if the external load and deformation of the fluid and piping is neglected, but such an idealization is not always possible. The present paper derives the general differential equation of the motion of such a servomechanism (see Fig. 1 in the Enclosure) with fluid compressibility being

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taken into account. In this derivation, it is assumed that there is no leakage of fluid in the valve or power cylinder, that the consumption coefficient is constant, that the hydraulic losses in the connecting channels and piping are negligibly small, that the pressure in the pressure main is constant, that the feedback lever is absolutely rigid, and that there is no slack. Using a d.c. electronic integrator, a solution to this equation by the matching method is then obtained which determines the reaction of the servomechanism, loaded by an inertial load and by dry friction, to a single displacement of the valve from the mean position. Finally, by way of illustration, the author considers the transient processes in the support of a single-coordinate hydroduplicating machine during a stepwise displacement of the valve. The results of this analysis show that the force of dry friction contributes to the stability of a hydraulic servomechanism. The stabilizing effect of this force leads to the creation of an impulse acting on the system at the moment of reversal of the piston, and directed against this movement. Orig. art. has: 5 figures and 24 numbered formulas.

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ACCESSION NR: AT4042448

ASSOCIATION: none

SUBMITTED: 29Jan64 ENCL: 01

SUB CODE: IE NO REF SOV: 003 OTHER: 000

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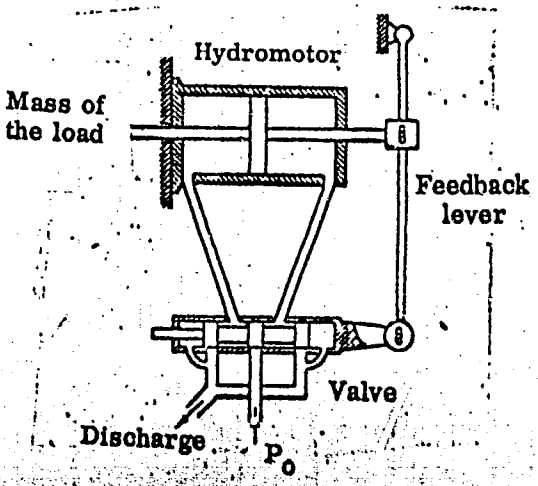

Fig. 1. Schematic diagram of a hydraulic servomechanism with throttle (valve) control.

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AVEN, O.A.; DVORETSKIY, V.M.; DOMANITSKIY, S.M.; ZALMANZON, L.A.; KRASSOV, I.M.; KRUG, Ye.K.; TAL', A.A.; KHOKHLOV, V.A.; BULGAKOV, A.A.; DEMIDENKO, Ye.D.; BERNSHTEYN, S.I.; YEMEL'YANOV, S.V.; LERNER, A.Ya.; MEYEROV, M.V.; PEREL'MAN, I.I.; FITSNER, L.N.; CHELYUSTKIN, A.B.; ZHOZHIKASHVILI, V.A.; IL'IN, V.A.; AGEYKIN, D.I.; GUSHCHIN, Yu.V.; KATYS, G.P.; MEL'TTSER, L.V.; PARKHOMENKO, P.P.; MIKHAYLOV, N.N.; FITSNER, L.N.; PARKHOMENKO, P.P.; ROZENBLAT, M.A.; SOTSKOV, B.S.; VASIL'YEVA, N.P.; PRANGISHVILI, I.V.; POLONNIKOV, D.Ye.; VOROB'YEVA, T.M.; DEKABRUN, I.Ye.

Work on the development of systems and principles of automatic control at the Institute of Automatic and Remote Control during 1939-1964. Avtom. i telem. 25 no. 6:807-851 Je '64. (MIRA 17:7)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A. (Moskva)

Effect of air content in a working fluid on the resilience of hydraulic motors in respect to the load. Avtom. i telem. 25 no.8:1243-1246 Ag '64. (MIRA 17:10)

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L 24501-65 EPF(n)-2/EWT(a)/EWT(l)/EWT(m)/MA/T-2/EWP(f) Pg-4, Pk-4, ...
Po-4/Pq-4 IJP(c)/AEDC(a)/AFMD(c)/ASD(a)-5/AFETR/RAEM(d)/ESD(dp) TT/BC
AM4045986 BOOK EXPLOITATION

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Khokhlov, Vikentiy Alekseyevich

Electrohydraulic servo drive (Elektrogidravlicheskiy sledyashchiy privod) Moscow, Izd-vo Nauka, 1964. 230 p. illus., biblio. 3200 copies printed. (At head of title: Akademiya nauk SSSR. Gosudarstvennyy komitet po priborostroyeniyu sredstvam avtomatizatsii i sistemam upravleniya pri Gosplane SSSR. ... avtomatiki i telemekhaniki). Responsible editor: Academician P. ... Editor of the publishing house: V. A. Klimov; Technical editor: Yu. V. Ryslina.

TOPIC TAGS: automatic control, electrohydraulic servo drive, hydraulic power amplifier, valve control, slide valve control, invariance, hydraulic drive control, hydraulic servosystem

PURPOSE AND COVERAGE: In this book, electrohydraulic servo systems in which only hydraulic performing mechanisms with valve (especially slide valve) control are used are analysed. The dynamic properties of individual elements, especially the performing mechanisms, of an electrohydraulic servo drive and of the ...

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a whole, operating on the principle of deviation, were studied in order to devise highly accurate automatic control systems in which the conditions of invariance would be fulfilled.

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OTHER: 010

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

SHISHKIN, [illegible]; YESIPOV, P.T.; BOROVITIN, M.P.; KHOKHLOV, V.A.; GRINER, V., red.

[Ways of reducing losses of metallic supports in mines of the "Vorkutugol'" Combine] Puti snizheniia poter' metallicheskoi krepi na shakhtakh kombinata Vorkutugol'. Syktyvkar, Komi knizhnoe izd-vo, 1964. 40 p. (MIRA 18:4)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.A.

Investigating the effect of the angle of inclination of the underlying surface on the conveying capacity of a snowstorm. Izv. SO AN SSSR no. 10. Ser. tekh. nauk no. 3:114-119 '65 (MIRA 19:1)

1. Sibirskiy nauchno-issledovatel'skiy institut energetiki, Novosibirsk. Submitted November 14, 1964.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

SMOL'NIKOV, L.P.; KHOKHLOV, V.A.

Design of a nonlinear instrumental servosystem. Izv. vys. ucheb. zav.; prib. 8 no.5:49-51 '65. (MIRA 18:10)

1. Leningradskiy elektrotekhnicheskiy institut imeni Ul'yanova (Lenina). Rekomendovana kafedroy avtomatiki i telemekhaniki.

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L 24343-66 EWT(1)/EWA(h) GS

ACCESSION NR: AT6005900 SOURCE CODE: UR/0000/65/000/000/0084/0094

35
34
B+1

AUTHOR: Khokhlov, V. A.

ORG: None

TITLE: Some questions on the dynamics of a choke-control hydraulic relay with inertia loading

SOURCE: International Federation of Automatic Control. International Congress. 2d, Basel, 1963. Tekhnicheskiye sredstva avtomatiki (Technical means of automation); trudy kongressa. Moscow, Izd-vo Nauka, 1965, 84-94

TOPIC TAGS: hydraulic device, mechanical relay, fluid dynamics

ABSTRACT: In the design of choke-control hydraulic relays there is often a need to investigate the effect of the inertia loading on the dynamic properties of such systems. Specifically, there are still no prescribed conditions under which the designer may disregard the inertia loading on a hydraulic device and to consider a hydraulic relay an ideal integrating link. In cases when the inertia load is high and there is a need to design a servomechanism with a wide bandpass frequency, there may arise the question on the permissibility of using liquid flow equations of continuity, usually employed as the basis for such systems. This

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problem was solved by the present author in an earlier work (Analiz dvizheniya nagruzhennogo gidravlicheskogo ispolnitel'nogo mekhanizma s obratnoy svyaz'yu. Avtomatika i telemekhanika, 1957, no. 9) assuming the working fluid incompressible. In the earlier work, the author presented an equation which determines the critical mass of the load at which no cavitation discontinuities of the fluid appear in the cavities of the hydraulic cylinder. The present work considers the compressibility of the fluid. The author determines the critical frequencies and oscillation amplitudes of the valves at which the continuity of the fluid flow remains valid. A line diagram of the hydraulic relay used in the analysis is given (Fig. 1). The following assumptions are made: the leakage of fluid and hydraulic losses in the piping are absent, the flow coefficient in the control windows of the valve is constant; the operating edges of the pin and valve, at an average position of the latter, coincide; the effective areas of the piston are identical on both sides. Two problems are examined. The first studies the conditions at which the choke-control hydraulic relay with inertia loading, operating on incompressible fluid and generating sinusoidal shape signals, may be considered a linear system. The solution of this problem is reduced to the determination of the limit frequencies and oscillation amplitudes of the valve, restricted to limits in which the deviation of the acceleration variation curve of the power hydrocylinder does not exceed 5% of a corresponding curve of an idle run. The

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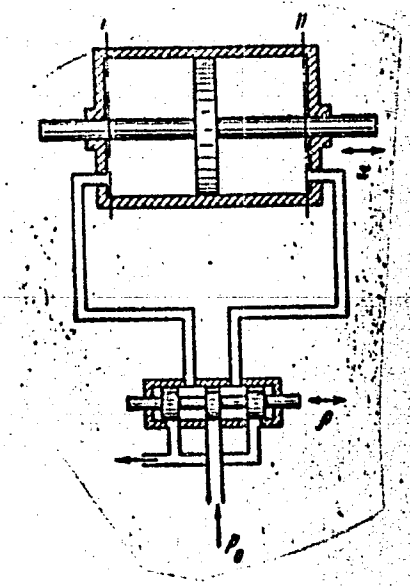

Fig. 1. Diagram of a hydraulic relay with a choke (valve) control. x - piston displacement, rated from its average position; ρ - valve displacement, rated from its average position; I - I and II - II are cross-sections of the fluid in the hydraulic cylinder, close to its edges.

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second problem is related to the determination of the limit frequency and valve oscillation amplitude without the appearance of cavitation discontinuities in the hydrocylinder. The investigation of the nonlinear problem is performed on a d-c electronic integrator, and its linear approximation is performed analytically. A comparison of the results obtained is given on a practical example. In view of the known difficulties of an analytical solution to eq. (11), it was investigated on the EMU-5 electronic simulator jointly with T. N. Kolerova. Orig. art. has: 1 table, 21 formulas, and 5 figures.

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IUGANZEN, Bodo Germanovich, prof.; KHOKHLOV, V.A., zasl. deyatel' nauki RSFSR, doktor geol.-miner. nauk, prof., red.; KROPACHEV, S.A., red.; YELEGICHEV, I.Z., red.

[Nature of Tomsk Province] Priroda Tomskoi oblasti. Tomsk, Izd. 3., perer. i dop. Tomskoe knizhnoe izd-vo, 1963. 233 p. (MIRA 17:6)

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V. A.
KHOKHLOV, ~~N. F.~~

"Some Dynamic Problems for a Hydraulic Executive Mechanism with Ihertial Load. "

Paper to be presented at the IFAC Congress, to be held in Basel, Switzerland, 27 Aug to 4 Sep 63

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KHOKHLOV, V.D., inzhener.

Type EST-2 electronic stroboscopic tachometer. Tekst.prom. 14 no.6:47-48 Je '54. (MLRA 7:7)
(Tachometer)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, V.D., inzhener.

Instrument for determining the speed of shuttle motion on loom. Tekst.prom. 15 no.1:29-31 Ja '55. (MLRA 8:2)
(Looms)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722130010-5

KHOKHLOV, Viktor Dmitriyevich

SOSNO SKIY, Andrey Anan'yevich; POLONIK, Pavel Arten'yevich, inzhener. KHOKHLOV, Viktor Dmitriyevich, inzhener; SHTEYNBOK, G.Yu., inzhener, nauchchiy redaktor; BRYANTSEVA, V.P., inzhener, vedushchiy redaktor; VUL'MAN, G.L., inzhener, redaktor; POROMOREV, V.A., tekhnicheskiy redaktor.

[Instrument for recording positions of transmitting synchros and potentiometric transmitters] Pribor dlia zapisi polozheniia sel'sinnykh i potentsiometricheskikh datchikov. Pribory dlia obnaruzheniia i izmereriia elektro-staticheskikh zariadov na tekstil'nykh materialakh. Moskva, 1956. 19 p. (Pribory i stendy. Tsne 5m no.P-56-526) (MLRA 10:10)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii. Filial.
(Recording instruments) (Textile fabrics--Electric properties)

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. Khokhlov, V.D.

AUTHORS: Yerofeyev, A.V., Khokhlov, V.D. 123 - 1 - 21.

TITLE: Photoelectric Signalization to Recall Helper to Machine-tool. (Elektrosvetovaya signalizatsiya dlya vyzova pomoshchnika mastera k stanku).

PERIODICAL: Tekstil'naya prom-st', 1956, No.3, 55-56. (USSR)

ABSTRACT: The construction and layout of photoelectric signalization in a textile shop of industrial laboratory at the Central Scientific and Research Institute for the Silk Industry (TsNII - Shelk) are described. The use of such signalization during the year has fully proved its utility. It is recommended for installation in textile mills, particularly with the view of accounting the idle time of machinery and equipment. P.Ye.A.

Card 1/2 Ref.Zh., Mashinostroyeniye, Nr.1, 1957, Item 21.

AUTH.: TSentral'nyy nauchno-issledovatel'skiy institut shelka.

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